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UFO QUARTERLY REVIEW

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Perhaps the most remarkable aspect of the polywater puzzle is that it has been resolved so quickly—almost 10 years to the day after it was discovered and after 4½ years of research.

'Comparable scientific disputes have required decades to unravel,' commented Princeton University chemist Dr. Leland Allen in an article in the British journal *New Scientist* called 'The Rise and Fall of Polywater.'

Moreover, Allen wrote, 'The polywater phenomenon has further verified the efficacy of the scientific method and the always difficult requirement of seeing a problem through to completion in the face of overwhelming bias from one's peers.'

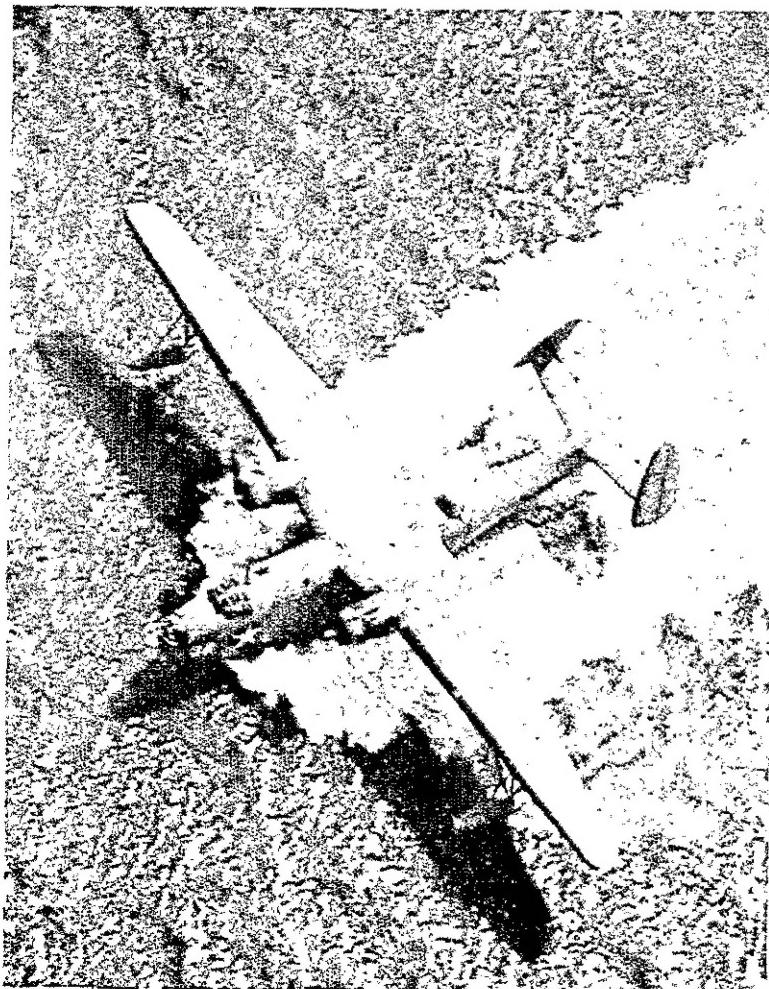
Allen said that most scientists rejected polywater out of hand for the wrong reasons—because it was different. They lacked the hard data to prove that polywater was a non-discovery.

On the other hand, he wrote, 'Almost all the researchers who made a prolonged effort on the problem were original believers who subsequently changed their stand.'³⁵

—Washington Post
September 2, 1973

conditions, the leader made his plan: When any aircraft got down to ten gallons of fuel, they would all ditch together. When that fateful point was reached, we can only imagine the feelings of the 14 men of Flight 19 as they descended through the dark toward a foaming, raging sea and oblivion.

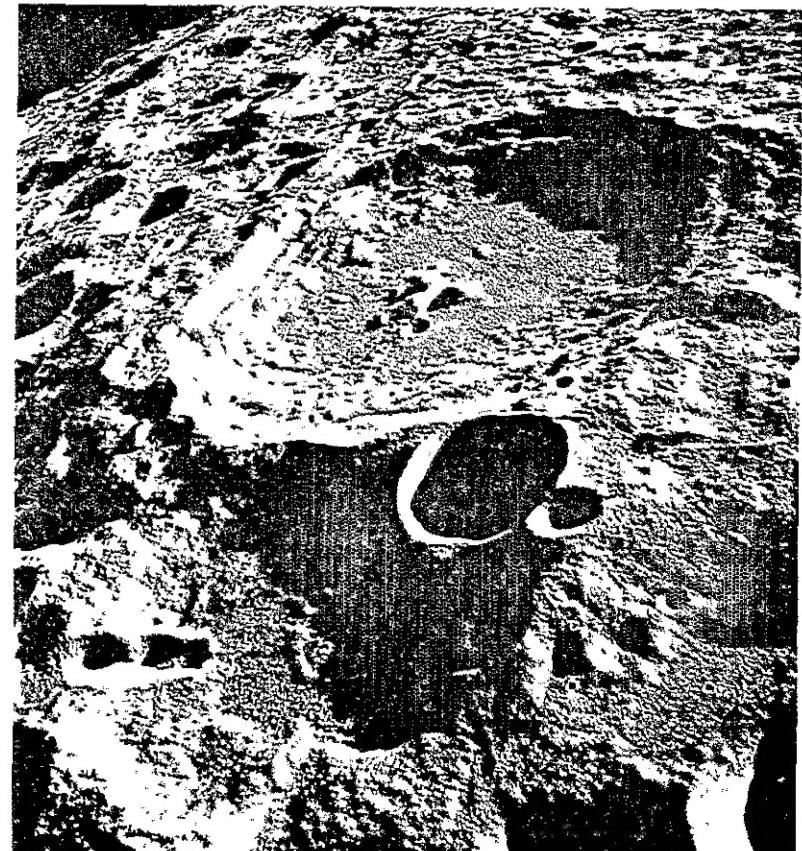
Former TBM pilots that we questioned express the opinion that an Avenger attempting to ditch at night in a heavy sea would almost certainly not survive the crash. And this, we feel, was the case with Flight 19, the Lost Patrol. The aircraft most probably broke up on impact and those crewmen who might have survived the crash would not have lasted long in cool water where the comfort index was lowered by the strong winds. This last element, while only an educated guess, seems to satisfy this strange and famous "disappearance."



PBM Mariner of type used to search for lost Avengers.

UFO BASE ON THE MOON: FACT OR FICTION?

by Stuart Nixon



NASA Photo

For many people who follow the UFO subject, tabloid newspapers hold a peculiar fascination. While other publications may ignore the subject or provide only sporadic coverage, the tabloids consistently accord it front-page treatment. Most readers recognize the sensational nature of these stories and are quick to question their reliability, but this has done little to lessen their grip on the imagination of the UFO market.

NICAP is sometimes asked why it does not show an interest in this material or report on it in NICAP publications. Since the tabloids profess to offer dramatic evidence that UFOs are

extraterrestrial craft, it is a puzzle to some members why NICAP seems unwilling to consider what could be extremely important data.

To help answer this question, NICAP recently tried an unusual experiment. An article was chosen from one of the popular tabloids distributed in the United States and put through an extensive checking, point by point. Care was taken to look at all possible factors that might relate to the article's authenticity, and people named in the article were contacted. In the following discussion, NICAP reporter Stuart Nixon explains what this investigation disclosed.

The article we selected first appeared in September 1969 in the *National Bulletin*, a tabloid published in Canada by the Globe Newspaper Group, which also publishes a tabloid called *Midnight*. Both publications are typical of their genre: graphics that lean heavily on oversized headlines, a writing style that can make even drab events sound provocative, and stories that emphasize the baser themes of human eccentricity and misfortune.

The article concerns an alleged encounter with UFOs on the lunar surface by Neil Armstrong and Edwin Aldrin, the two Apollo 11 astronauts who were the first men to step foot on the moon. According to the article, the unidentified objects were seen deployed along the edge of a crater in the vicinity of strange "installations." News of the discovery was kept secret, the article said, to prevent public panic.

In the four years since this story was published, it has been described in magazines and newspapers and swept into the general stream of speculation that circulates in the UFO field. NICAP members have written to find out if it is true, including one man who wanted to know why it "did not get comment from you in the *UFO Investigator*."

The article is based on a short conversation that supposedly took place between the astronauts and NASA's Mission Control Center in Houston, Texas, during the Apollo 11 flight. According to the writer of the story, Sam Pepper, "I was able to lay hands on a top secret tape transcript" of the conversation, which "was received back on Earth as the words were uttered." This transcript is reprinted in its entirety on the opposite page.

Before looking at specific elements of the story, consider for a moment the enormity of this claim. If in fact the Apollo astronauts encountered unknown objects and installations on the moon's surface, it is news that would almost certainly electrify the civilized world. In fact, it is difficult to overestimate the profound scientific and pub-

THE TRANSCRIPT

This is the complete text of the alleged conversation between NASA and the Apollo 11 astronauts concerning UFOs on the moon. Those passages attributable to Mission Control in Houston are shown in italics. The numbers are for reference purposes only and were not included in the original article.

- [1] "What was it, what the hell was it? That's all I want to know..."
- [2] "These...(garbled) babies were huge, Sir, they were enormous..."
- [3] "No, no that's just field distortion...Oh, God, you wouldn't believe it..."
- [4] "What...what...what the hell's going on? Whatsa matter with you guys, wha..."
- [5] "They're there, under the surface..."
- [6] "What's there? (garbled) ...malfunction...ion Control calling Apollo 11..."
- [7] "Roger, we're here, all three of us, but we've found some visitors..."
- [8] "Yeah, they've been here for quite a while judging by the installations..."
- [9] "Mission Control, repeat last message..."
- [10] "I'm telling you, there are other spacecraft out there! They're lined up in ranks on the far side of the crater edge.
- [11] "Repeat, repeat..."
- [12] "Let's get that orbit scanned and head home..."
- [13] "In 625 to the fifth, auto-relays set...my hands are shaking so bad I can't..."
- [14] "Film...hell, yes, the damned cameras were clicking away from up here, did you fellows get anything?"
- [15] "Had no film left by the time...(garbled)...three shots of the saucers, or whatever they were...may have fogged the film..."
- [16] "Mission Control, this is Mission Control...are you under way, repeat, are you under way? What's this uproar about UFOs? Over.
- [17] "They're set up down there...they're on the moon watching us..."
- [18] "The mirrors, the mirrors, you set them up, didn't you?"
- [19] "Yes, the mirrors are all in place. But whatever built those spacecraft will probably come over and pull 'em all out by the roots tomorrow."

lic reaction that might follow such an announcement. In all probability, the Apollo program would be immediately revived to explore the area where the objects or structures were seen, and to deploy instruments that might yield evidence of these objects or their activities. NASA's budget would probably be increased, and a high-priority program of technical studies, astronomical observations, and world-wide scientific discussion would rapidly develop. Arthur Clarke, in his short story "The Sentinel," which was used as the basis for the film 2001, speculates on such an event and suggests that it would have dramatic and long-range repercussions. In a 1968 article in *Playboy*, he repeats this point, saying, "Almost every field of scientific inquiry...would be profoundly affected."

Since none of these things happened following the flight of Apollo 11 in July 1969, it is almost inconceivable that the *Bulletin* article could be true without some independent piece of evidence turning up in the four intervening years. It would be necessary, for example, to explain why all subsequent Apollo missions had as their primary objectives various geologic, mapping, and soil-sampling activities that bore no apparent relation to the possible presence of intelligent life. These were straightforward scientific experiments developed largely by universities and research companies outside the government. Furthermore, no landing site was visited twice during the Apollo program, and no mission was classified or characterized by unusual restrictions on the news media.

Despite these objections, let us assume the article could still be true, and that by some well-managed feat of security, the news has been kept secret all this time. What can we say about the alleged transcript and other elements of the story?

For the record, NICAP queried the three astronauts who flew Apollo 11: Armstrong, the commander; Aldrin, the Lunar Module pilot; and Michael Collins, the Command Module pilot. If the story is true, asking these men to verify it was like asking them if they beat their wives. Nevertheless, two of them—Collins and Armstrong—told NICAP the story is not true, even partially. (The third, Aldrin, was on a travel tour to promote his new book and not available for comment.) In a personal interview, Collins read the article and commented simply, "What can I say; it's crazy." Armstrong, by letter, replied the same way: "Unfortunately, we saw no signs of life on the surface of the moon."

Also for the record, NICAP contacted the Globe Newspaper Group to seek an interview with Sam Pepper and determine who presently has possession of the alleged transcript. This exercise proved to be as productive as present efforts of federal prosecutors to obtain the Watergate tapes. Two letters to the Globe's editorial office in Montreal went unanswered. A telephone call to the same office produced no results. A third letter, sent by registered mail, was ignored. Finally, a person-to-person call to Globe editor John Vader produced a promise to "check into the matter and call or write you." Nothing has been heard since. Vader said he did not know anyone named Sam Pepper.

The story itself presents multiple problems in logic, consistency, and factual detail. Although the average reader has no way of checking many of the article's claims, NICAP was able to piece together a comprehensive analysis from conversations with NASA officials, the interview with Mike Collins, and examination of flight summaries and transcripts.

Study of the alleged conversation immediately reveals two peculiarities. First, none of the statements in the transcript is identified as to who made it. This would not be true if Pepper actually obtained an official transcript, which would show all speakers by name or code. To argue that Pepper knew the names but chose to omit them is to raise additional questions, since the absence of names makes the transcript harder to read and immediately suspect.

A second peculiarity is the way in which the conversation has been taken out of context, with no indication of what was said before or after the quoted portion. This makes it difficult to check out, since

it cannot be related to official NASA transcripts of Apollo air-to-ground communications. If these transcripts have been edited to remove this section of dialogue, there should be telltale breaks in the continuity of the official record, since a dramatic incident of this kind would certainly produce prolonged discussion between Mission Control and the astronauts. It is unlikely that official transcripts could be so smoothly altered as to cover up all evidence of discontinuity and all allusions or later conversations concerning the alleged observation. The transcripts are prepared by clerical personnel at Houston within a few hours from the time the transmissions are received.

This raises the critical question of when the supposed incident took place and how it was shielded from the eyes and ears of news media covering the flight. Pepper offers no information on the first point, and only a fragmentary explanation of the second. Toward the beginning of the story, he says the conversation (not the sighting) took place as Armstrong and Aldrin "returned to the spacecraft." The spacecraft he refers to is the Command Module—nicknamed Columbia—which orbited the moon while the two astronauts descended to the lunar surface in the LM (nicknamed Eagle). Eagle returned to lunar orbit on the afternoon of July 21, approximately 13 hours after Armstrong and Aldrin had completed their moon walk and reentered the lander. Once in orbit, Eagle redocked with Columbia at 5:35 p.m. EDT while completing a pass *behind* the moon and out of communication with Earth. Since Pepper tells us the UFO conversation was monitored by Houston in real time, it could only have happened after radio signals from Eagle and Columbia had been reacquired following the back-side pass. This is confirmed by the remark in passage 7 that "we're here, all three of us," which would not make sense unless Eagle had reunited with Columbia and the three astronauts were again traveling together.

The official NASA transcript shows that LM AOS (acquisition of signal with Lunar Module) occurred at 5:22 p.m. EDT. The first words recorded, according to the transcript, were those of Armstrong, who advises Collins that "I'll try to get in position here, then you got [sic] it. How does the roll attitude look? I'll stop. Matter of fact, I can stop right here if you like that." This does not sound like a man who just has seen alien spacecraft.

The next voice to speak is that of the Capsule Communicator at Houston (identified as CAPCOM in the official transcript). This man is an astronaut himself and normally the only person on the ground to speak with the astronauts during a flight.* At the time he speaks, Houston is still trying to achieve AOS with the Command Module: "Eagle, Houston. Middle gimbal. And you might put out to Columbia we don't have him yet."

This is a critical moment in the flight if the *National Bulletin* article is true. Eagle and Houston are now in communication for the first time in approximately 44 minutes (the time it took for Columbia and Eagle, flying in tandem, to pass behind the moon prior to docking). Inside Eagle are Armstrong and Aldrin, who, according to Pepper, "returned to the spacecraft orbiting above them with

*The voice of Apollo Control, whose commentary is fed to radio and TV networks for live broadcast, is that of a NASA public affairs officer, identified in the official transcripts as PAO. PAO and CAPCOM are not the same person.

ashen faces and trembling limbs." Both men, if we accept Pepper's scenario, have only minutes previously witnessed what until that moment was a highly speculative scene in a science fiction movie: an aerospace facility constructed on the moon by an extraterrestrial civilization. By any test of human psychology, the natural impulse on experiencing such a sight would be to advise Houston of the discovery and seek instructions on what action, if any, should be taken while the astronauts were still in lunar orbit. Columbia was not scheduled to fire its motors and depart for Earth until approximately 1 a.m. EDT the following day, July 22. During the eight and a half hours until that moment, four more passes behind the moon would be made. There would be ample opportunity to make additional observations of the UFO base, but it would first be necessary to alert Houston and request permission to deviate from the mission flight plan. Before Columbia could break away from its path around the moon, the LM had to be jettisoned, various on-board systems had to be checked out, and other tasks had to be performed to assure the spacecraft was ready for transEarth injection. A unilateral decision by the Apollo astronauts to defer these procedures or substantially alter the flight plan would have been unusual and potentially irresponsible.

No clue that such a decision was made or requested is evident in the official transcript. Following LM AOS at 5:22 p.m., the three-way conversation between Eagle, Columbia, and Houston concerns the docking operation and various technical problems. The only sign of an emotional reaction comes at about 5:35 p.m. when Collins and Armstrong have a brief exchange about an accidental firing of a thruster on the LM during rendezvous. After that, the conversation turns to a biomedical problem and other housekeeping chores.

Someone might wish to argue that the sighting did not take place during the pass behind the moon when docking was initiated, and that discussion of the sighting occurred at some other point in the mission. This is inconsistent with Pepper's statement that the conversation he quotes was monitored as it happened when Armstrong and Aldrin returned to the Command Module. It also belies the transcript itself, which, as we have already noted, refers to the "three of us" and makes other references that are only logical in the context of post-docking activities. If the sighting had occurred while the astronauts were on the lunar surface or returning to lunar orbit, they would have been able to notify Houston directly and the conversation described by Pepper would never have occurred.

Keep in mind that Collins, who remained in lunar orbit while the moon landing was made and who could not talk with Armstrong or Aldrin while they were on the lunar surface, is a participant in the conversation; only Collins could have spoken passage 14. If the sighting had occurred before the final predocking pass behind the moon, Collins would most likely have found out about it at the same time Houston did, since he normally monitored the Houston-Eagle radio link. If he did not happen to be listening to the conversation at that particular moment, Houston could have easily advised him within a matter of seconds (unless he was behind the moon). Passage 14 implies one of these two possibilities did in fact happen, prompting Collins to start taking pictures. However, the entire content of the conversation—especially passages 4, 6, 7, and 16—indicates Houston had no knowledge of the purported UFO observation prior to the time of the

conversation. If Houston didn't know before Collins knew, how could Collins have been alerted to take pictures? The only way around this problem is to assume that Collins somehow made his own independent discovery of the UFOs or was told by Armstrong and Aldrin as soon as LM-CM voice communications were restored once the two spacecraft were sufficiently close in orbit for the system to function. Unfortunately, Pepper says nothing about Collins being a witness to the UFOs and in fact states that "we have the unavoidable truth from the mouths of two human beings who confronted these alien space-navigators" (emphasis added).

Yet another argument against Pepper's claim is the curious phrasing of certain passages in the transcript. It is unlikely, for example, that Houston would use the familiar language of passage 4 to address the astronauts. NASA flight controllers have their own operational terminology, based partly on terms used by pilots and partly on other technical language. It is possible, but not probable, that CAPCOM would lapse into ordinary slang when querying the spacecraft for clarification of a transmission.

Mike Collins pointed out another incongruity: use of the word "repeat." "We didn't usually say this," he commented; "we preferred 'say again.' It was a holdover from our flying days."

Collins also questioned the phrases "orbit scanned" (passage 12) and "625 to the fifth" (passage 13). He said these phrases were unintelligible to him. The same reaction was reported by NICAP adviser Alan Holt, who works at the Manned Spacecraft Center in Houston as part of the program to train astronaut crews in the operation of scientific experiments. Holt said he talked with a "CM procedures expert in Guidance and Control," who said he was "not at all familiar with any operational terminology" used in Pepper's transcript. Holt concluded: "Based on my experience at NASA... I would be very surprised to find out that such a sighting as indicated by the National Bulletin ever took place."

Perhaps the most damaging piece of evidence against the transcript's authenticity is the odd use of the phrase "Mission Control." Anyone who has listened closely to conversations between Houston and the astronauts will recall that CAPCOM identifies himself as "Houston," not as "Mission Control." The PAO, whose voice is heard by the public over radio and television, may say "Mission Control" or "Apollo Control," but CAPCOM does not.

An equally curious statement is passage 18, which could only have been spoken by Houston. The term "mirror" refers to the Laser Reflector Cube that was deployed on the moon by Aldrin as one of two scientific experiments carried on Apollo 11. Aside from the fact that the astronauts never used the word "mirror" to identify the Cube, it was standard NASA procedure to verbally confirm all lunar activities, including deployment of experiments, before the astronauts completed their stay on the surface. On Apollo 11, this was done at approximately 12:50 a.m. EDT, July 21, just a few minutes before Aldrin climbed up the LM ladder and reentered the landing craft (followed 15 minutes later by Armstrong). In view of this, it would have been meaningless for Houston to arbitrarily seek reconfirmation of the Cube's placement some 13 hours after that action had already been verified. It is particularly improbable when you consider that Houston, and an estimated 530 million TV viewers

around the world, watched the experiments being set up.

To account for why news reporters covering Apollo 11 did not find out about the purported UFO encounter, Pepper says NASA censored audio transmissions through use of a time-delay device such as that used on radio talk shows. NASA Public Affairs office told NICAP that such a device is only employed in the NASA communications system to assure synchronization between audio and color video signals. Even then, the delay is no more than seven or eight seconds, not the "two or three minutes" claimed by Pepper. Since no color TV camera was used on Apollo 11 while the astronauts were on the lunar surface or in lunar orbit, all audio transmissions from Eagle and Columbia during that period were received at Houston in real time, with only the normal 1.5-second delay caused by the distance between Earth and moon. Since the news media monitor the same audio loop as NASA engineers at the Houston center, any interruption in communications is immediately obvious to both reporters and engineers, and censorship would be difficult to impose without depriving the press of its audio feed. This might be done for a temporary period, but a plausible pretext for the deprivation would have to be issued, since loss of communications is in itself a critical development and potentially newsworthy. The longer this unusual situation continued, the more difficult it would be to maintain the appearance that no communications were being received from the spacecraft. Keep in mind that NASA could not censor the air-to-ground link by simply delaying it; all audio communications heard by the press would have to be shut off while flight controllers continued to maintain active contact. Normally, such a private conversation is conducted only when NASA personnel or the astronauts request it. The request is heard by the press, and the reason is stated. In actual practice, this has rarely happened.

Examination of the official transcript reveals only one conversation that could have been misinterpreted by Pepper or his sources as describing a UFO observation. This passage occurred at 12:40 p.m. EDT, July 21, 12 hours after Armstrong and Aldrin had completed their moon walk. In the conversation, Aldrin notes that the Eagle has landed in a boulder field where "some of the boulders are lying on top of the surface, some are partially exposed, and some are just barely exposed." He adds, "In our traverse around the surface and particularly working with the scoop, we can run into boulders below the surface, probably buried under several inches of the ground mass." This comment is somewhat suggestive of passage 5 in the Pepper transcript.

Aldrin also describes the craters at the landing site, reporting, "Some are 10 feet or so and perhaps bigger, and they are very thickly populated out to about one crater diameter beyond the crater rim. Beyond that, there is some diminishing, and even out in this area the blocks seem to run in rows and irregular patterns...." This discussion is suggestive of passage 10.

Except for these passages, it is difficult to imagine how any of the experiences reported by the Apollo 11 astronauts could have been mistaken for the events described in the *Bulletin* article. Even the last item in the transcript (passage 19) is not true. The LR Cube remained in place and worked successfully, long after Eagle had departed its landing site at Tranquility Base.

PROPOSAL FOR UFO DESIGN

by Kiril Terziev

Kiril Terziev, a physicist who lives in Yugoslavia, has studied UFOs since the mid-1960s and developed various aerodynamic designs that might be suitable for extraterrestrial craft. Since much of his material is technical in nature and difficult to translate into English, it has not been possible to make a complete analysis of these designs or Terziev's theories of propulsion. In the following article, a brief summary of his work is offered, based on personal correspondence and related material. Terziev emphasizes that his proposals are speculative and need to be evaluated by engineers and other specialists before the practicality of the designs can be established.

The principle of my flying machine is shown in Figure 1. The reaction force acts upon the machine in a vertical direction. This force enables the machine to fly. Other forces inherent in the design nullify each other.

On the basis of my theory, all general shapes reported for UFOs can be developed: saucer, disc, inverted top, double-convex, egg-shaped, cigar, etc. Among these shapes, one of the primary characteristics is a flat bottom or the circular part of a flat bottom. This is consistent with many well known pictures and reports.

The circular disc in my design rotates clockwise (when viewed from the bottom), drawing air into the center and expelling it at the sides. Blades on the disc help control the air flow, which is directed downward by vents at the edge of the wall around the disc (Fig. 2). Different configurations for the underside of the machine are possible, depending on how the air is drawn in and distributed (Fig. 3). It is also possible to pull in the air from above (Fig. 4).

The reaction force (U) can be computed from the formula $U=Kn^2R^4$, where K is a constant, n is the number of cycles per second completed by the disc, and R is the radius of the disc. Other forces can be computed, such as the rate of air flow, pressure on the disc, and efficiency (input versus output).

To provide lateral movement and control, secondary air flows can be utilized, with outlets placed 90 degrees apart at three locations around the structure of the machine (Fig. 5). Other gases besides air can be used for this purpose. To insure proper lift, the main downward thrust must be maintained in a vertical direction, relative to the ground, possibly through employment of a gyroscopic control system or variable vents.

For cigar-shaped objects, a series of motors and air-flow systems could be designed (Fig. 6). For other kinds of objects, the same principle could be adapted. Compartments for passengers, equipment, and supplies could be constructed in various ways, based on the design of the propulsion system.